DRAFT
WASTEWATER-LAND APPLICATION PERMIT
LA-000103-05

Glanbia Foods, Inc. LOCATED AT **1728 South 2300 East, Gooding, ID 83330** IS HEREBY AUTHORIZED TO CONSTRUCT, INSTALL, AND OPERATE A WASTEWATER-LAND APPLICATION TREATMENT SYSTEM IN ACCORDANCE WITH THE WASTEWATER-LAND APPLICATION RULES (IDAPA 58.01.17), THE WATER QUALITY STANDARDS AND WASTEWATER TREATMENT REQUIREMENTS (IDAPA 58.01.02), THE GROUND WATER QUALITY RULE (IDAPA 58.01.11), AND ACCOMPANYING PERMIT APPENDICES AND REFERENCE DOCUMENTS. THIS PERMIT IS EFFECTIVE FROM THE DATE OF SIGNATURE AND EXPIRES ON [*5 YEARS AFTER FINAL PERMIT ISSUANCE DATE*].

_____
Doug Howard
Twin Falls Regional Office Administrator
Idaho Department of Environmental Quality

_____
Date

DEPARTMENT OF ENVIRONMENTAL QUALITY
1363 Fillmore Street
Twin Falls, Idaho 83301
(208) 736-2190
(208) 736-2194 (fax)

POSTING ON SITE RECOMMENDED

B. Permit Contents, Appendices, and Reference Documents

Content/Section		Page
A.	Permit Certificate	1
B.	Permit Contents, Appendices, and Reference Documents	2
C.	Abbreviations, Definitions	3
D.	Facility Information	5
E.	Site Specific Permit Conditions	6
F.	Monitoring Requirements	11
G.	Compliance Schedule for Required Activities	15
H.	Reporting Requirements	17
I.	Standard Permit Conditions: Procedures and Reporting	18
J.	Standard Permit Conditions: Modifications, Violation, and Revocation	20

Appendices

1.	Environmental Monitoring Serial Numbers	21
2.	Site Map(s)	24
3.	Buffer Zone(s) Site Map	26

References

1. Plan of Operation (Operation and Maintenance Manual)
2. Grazing Management Plan
3. Sludge Management Plan (Arkoosh sites only)

The Sections, Appendices, and Reference Documents listed on this page are all elements of Wastewater-Land Application Permit LA-000103-05 and are enforceable as such. This permit does not relieve Glanbia Foods, Inc., hereafter referred to as the permittee, from responsibility for compliance with other applicable federal, state or local laws, rules, standards or ordinances.

C. Abbreviations, Definitions

Ac-in	Acre-inch – The volume of water or wastewater to cover 1 acre of land to a depth of 1 inch. Equal to 27,154 gallons
Arkoosh Site	Refers to wastewater land application sites previously permitted under WLAP No. LA-000103-02, dated March 10, 1999
BMP(s)	Best Management Practice(s)
COD	Chemical Oxygen Demand
DEQ or the Department	Idaho Department of Environmental Quality
Director	Director of the Idaho Department of Environmental Quality, or the Directors Designee, i.e. Regional Administrator
ET	Evapotranspiration – Loss of water from the soil and vegetation by evaporation and by plant uptake (transpiration)
Facility	The cheese processing plant located in Gooding County, near the Town of Gooding, Idaho
GS	Growing Season – April 1 through October 31 (214 days)
GW	Ground Water
GWQR	IDAPA 58.01.11 "Ground Water Quality Rule"
Handbook or Guidelines	Guidance for Land Application of Municipal and Industrial Wastewater, DEQ, December 15, 2005
HLR_{gs}	Growing Season Hydraulic Loading Rate – Cumulative summation of wastewater and supplemental irrigation water applied to land application hydraulic management units during the growing season. The HLR_{gs} limit is specified in Section E. Permit Limits and Conditions.
HLR_{ngs}	Non-Growing Season Hydraulic Loading Rate – Includes any combination of wastewater and supplemental irrigation water applied to each hydraulic management unit during the non-growing season. The HLR_{ngs} limit is specified in Section E. Permit Limits and Conditions.
HMU	Hydraulic Management Unit (Serial Number designation is MU)
IDAPA	Idaho Administrative Procedures Act
IR	Mean Irrigation Requirement
IWR	Irrigation Water Requirement – Any combination of wastewater and supplemental irrigation water applied at rates commensurate to the moisture requirements of the crop: $IWR = IR / E_i = (CU - P_e) / E_i$ where: IR is net irrigation requirement = $CU - P_e$ CU is consumptive use (crop evapotranspiration) for a given crop in a given climatic area P_e is effective precipitation E_i is irrigation system efficiency
lb/ac-day	Pounds per acre per day
MG	Million Gallons (1 MG = 36.827 acre-inches)
MGA	Million Gallons Annually (per WLAP Reporting Year)
NGS	Non-Growing Season – November 1 through March 31 (151 days)
NVDS	Non-Volatile Dissolved Solids – Equal to Total Dissolved Solids less Volatile Dissolved Solids
O&M manual	Operation and Maintenance Manual; also referred to as the Plan of Operation
Permittee or GFI	Glanbia Foods, Inc.
QA/QC	Quality Assurance/Quality Control

C. Abbreviations, Definitions

SAR	Sodium Absorption Ratio
Settlement Agreement	May 2004 settlement agreement regarding WLAP No. LA-000103-03, dated April 28, 2003, between several area residents, GFI, and DEQ.
SI	Supplemental Irrigation water applied to the land application treatment site
SMU	Soil Monitoring Unit (Serial Number designation is SU)
Soil AWC	Soil Available Water Holding Capacity – The water storage capability of a soil to a depth at which plant roots will utilize (typically 60 inches or root limiting layer)
SPCC	Spill Prevention, Containment, and Countermeasures
SW	Surface Water
TDIS	Total Dissolved Inorganic Solids – The summation of chemical concentration results in mg/L for the following common ions: calcium, magnesium, potassium, sodium, chloride, sulfate, and 0.6 times alkalinity (alkalinity expressed as calcium carbonate). Other dissolved inorganic species (e.g., nitrate, silica, fluoride, etc.) should be included if present in significant quantities (i.e. > 5 mg/L each).
TDS	Total Dissolved Solids or Total Filterable Residue
TMDL	Total Maximum Daily Load – The sum of the individual waste-load allocations (WLAs) for point sources, Load Allocations (LAs) for non-point sources, and natural background. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety that takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality. IDAPA 58.01.02 *Water Quality Standards and Wastewater Treatment Requirements.*
Treated wastewater	Wastewater that has passed through the pretreatment plant and meets the Wastewater Pretreatment System Effluent Requirements contained in Section E of this permit
Typical Crop Uptake	The median constituent crop uptake from the three (3) most recent years the crop has been grown. Typical Crop Uptake is determined for each hydraulic management unit. For new crops having less than three years of on-site crop uptake data, regional crop yield data and typical nutrient content values, or other values approved by DEQ may be used.
Untreated wastewater	Wastewater that does not meet the Wastewater Pretreatment System Effluent Requirements contained in Section E of this permit
Upset Conditions or Operational Upset	As pertaining to the wastewater pretreatment system, an incident in which there is unintentional and temporary non-compliance because of factors beyond the permittee's reasonable control, but not including non-compliance to the extent caused by operational error, inadequate or improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.
USGS	United States Geological Survey
WLAP	Wastewater Land Application Permit or Program
WLAP Reporting Year	The reporting year begins with the non-growing season and extends through the growing season of the following year, typically November 1 through October 31. For example, the 2000 Reporting Year was November 1, 1999 through October 31, 2000.
Wolfe Site	Refers to wastewater land application sites previously permitted under WLAP No. LA-000103-04, dated March 10, 1999
WRCC	Western Regional Climate Center
WW	Wastewater applied to the land application treatment site

D. Facility Information

Legal Name of Permittee	Glanbia Foods, Inc.
Type of Wastewater	Industrial wastewater
Method of Treatment	Wastewater pretreatment system, followed by slow-rate land application
Type of Facility	Cheese and whey processor
Facility Location	Processing plant located at 1728 South 2300 East, Gooding, Idaho
Legal Location of Land Application Sites	Arkoosh Site: Parts of Township 5 South, Range 15 East, Section 36 and Township 6 South, Range 15 East, Section 1; Township 5 South, Range 16 East, Section 31 and Township 6 South, Range 16 East, Section 6. Wolfe Site: Parts of Township 6 South, Range 15 East, Section 12 and Township 6 South, Range 16 East, Section 7.
County/USGS Quadrangle	Arkoosh Site: Gooding / Gooding Wolfe Site: Gooding / Tunupa
Soils on Site	Arkoosh Site: Sandy loams over hardpan and basalt Wolfe Site: Ackleton fine sandy loam, Ackleton-Jestrick-Rock Outcrop complex, Harsan-Wako complex, and Idow-Wendell-Minveno complex
Depth to Ground Water	Approximately 150 to 180 feet
Beneficial Uses of Ground Water	Domestic, agricultural, industrial
Nearest Surface Water	Arkoosh Site: Little Wood River is located to the immediate north. Wolfe Site: The South Gooding Main Canal runs along a portion of the northern border. The B-2 Lateral runs through the Wolfe site, near Pivot 2 and Linear Fields 3 and 5. The Little Wood River is located approximately 2 miles north.
Beneficial Uses of Surface Water	Agricultural irrigation, cold water biota, salmonid spawning, primary and secondary contact recreation
Responsible Official Mailing Address Phone / Fax	Doug Pettinger, Environmental Director 1728 South 2300 East Gooding, Idaho 83330 (208) 934-8195 / (208) 934-9442

E. Site Specific Permit Conditions

The permittee is allowed to apply wastewater on land application sites as prescribed in the table below and in accordance with all other applicable permit provisions.

Category	Permit Limits and Conditions
Type of Wastewater	Wastewater generated from cheese production and whey processes
Application Site Areas	Arkoosh Site: 918.09 acres Wolfe Site: 530.4 acres
Application Season	Year-round (365 days/calendar year)
Growing Season (GS)	April 1 through October 31 (214 days)
Non-growing Season (NGS)	November 1 through March 31 (151 days)
Reporting Year for Annual Loading Rates	November 1 through October 31
Method of Wastewater Treatment	Unless otherwise approved by DEQ in writing, all wastewater from the facility shall be discharged to a one-day holding pond, routed through the pretreatment plant, and then into a five-day holding pond prior to land application. Additionally, all wastewater and supplemental irrigation water shall be routed through the five-day holding pond prior to land application as the final treatment process.
Wastewater Pretreatment System Requirement	The wastewater pretreatment system shall, at a minimum, consist of an anaerobic digestor followed by aerobic treatment (biological nutrient reduction with activated sludge treatment). The pretreatment system shall be maintained and operated in good working order.
Wastewater Pretreatment System Effluent Requirements	Except for periods of operational upset or as otherwise delineated in a DEQ-approved Contingency Plan, wastewater exiting the pretreatment system shall contain no more than 50 parts per million (ppm) biological oxygen demand (BOD) and no more than 50 ppm total suspended solids (TSS), based on a 24-hour flow-proportional composite sample of effluent from the aerobic plant outlet.
Growing Season Hydraulic Loading Rate, each Hydraulic Management Unit (HMU) Note: applies to summation of wastewater and irrigation water applied to each HMU	The GS Hydraulic Loading Rate shall be substantially equal to the Irrigation Water Requirement (IWR) throughout the growing season.

E. Site Specific Permit Conditions

Category	Permit Limits and Conditions
Non-Growing Season Maximum Hydraulic Loading Rate Limit, each HMU	The maximum NGS hydraulic loading rate is equal to: Soil Available Water-Holding Capacity (AWC) – $Precipitation_{NGS}$ + $Evapotranspiration_{NGS}$ for each HMU using the following values: Soil AWC: dependent on soil type Precip., NGS: 6.30 inches (Nov 1 through March 31) ET, NGS: 7.80 inches (Nov 1 through March 31) The NGS hydraulic loading rate limit for each HMU is shown below: HMU – Field Description – Million Gallons 010301 – Pivot 1 (Arkoosh) – 4.78 010302 – Pivot 2 (Arkoosh) – 40.30 010305 – Pivot 4 (Arkoosh) – 24.24 010306 – Pivot 3 (Arkoosh) – 8.93 010307 – Pivot 5 (Arkoosh) – 4.96 010308 – Pivot 6 (Arkoosh) – 27.58 010309 – Pivot 7 (Arkoosh) – 17.33 010310 – Pivot 8 (Arkoosh) – 4.16 010311 – Hand/wheel lines (Arkoosh) – 24.24 010312 – Pivot 1 and Fields 5, A, and B (Wolfe) – 20.91 010313 – Pivot 2 (Wolfe) – 22.97 010314 – Fields 3, 4, E, and H (Wolfe) – 24.46 010315 – Pivot 7 and Fields D, F, and G (Wolfe) – 17.40 010316 – Pivot 6 and Field C (Wolfe) – 10.67 The maximum total NGS hydraulic loading rate limit for all HMUs is 252.94 million gallons.
Runoff and Ponding Requirements	The permittee shall manage the wastewater land application site in accordance with an approved Runoff Management Plan, required by Compliance Activity No. CA-103-03. To prevent runoff from the site, Best Management Practices (BMPs) shall be used around all areas where runoff may potentially occur. Berms and other BMPs shall be used to protect the wellhead of on-site irrigation wells. New BMPs shall be reviewed and approved by DEQ prior to implementation. The permittee shall, to the maximum extent reasonably possible, operate the land application facility to prevent ponding. This includes, but is not limited to, the obligation to install, operate, and maintain equipment, structures, and other BMPs to prevent and correct ponding. At all times, the permittee shall prevent wastewater from ponding in the fields to the point where the ponded water putrefies or supports vectors or insects. No application of wastewater is allowed if standing water or ice is present in the HMU. Surface water collection sites adjacent to the Gnesa property shall only be used to collect runoff from rain or snowmelt. Water collected at these sites shall be immediately pumped out of the collection site.
Grazing Management Requirement	All grazing activities shall be conducted in accordance with the permittee's approved Grazing Management Plan.

E. Site Specific Permit Conditions

Category	Permit Limits and Conditions
Allowable Crop Requirement	No crops for direct human consumption are allowed.
Ground Water Quality Restriction	Wastewater land application activities conducted by the permittee shall not cause a violation of the *Ground Water Quality Rule* (GWQR), IDAPA 58.01.11, as now existing or later amended.
Maximum COD Loading Rate Limit, Pounds/acre-day, each HMU	50 pounds/acre-day seasonal average for the GS. 50 pounds/acre-day seasonal average for the NGS.
Maximum Nitrogen Loading Rate Limit, pounds/acre-year, each HMU (from all sources including waste solids and supplemental fertilizers)	150% of typical crop uptake. Typical Crop Uptake is defined as the median crop uptake of nitrogen for the three (3) most recent years the crop has been grown. Typical Crop Uptake is determined for each HMU. For HMUs having less than three (3) years of crop uptake data, best estimates of crop uptake using a method approved by DEQ shall be used.
Maximum Total Dissolved Inorganic Solids (TDIS) Loading Rate Limit, pounds/acre-year, each HMU	No TDIS loading rate limits at this time. In the event that DEQ determines TDIS limits are necessary, DEQ shall issue a draft modification to the permit and a staff analysis, and shall process the modification as provided in IDAPA 58.01.17.400.
Maximum Phosphorus Loading Rate Limit, pounds/acre-year, each HMU (from all sources including supplemental fertilizers)	No phosphorous loading rate limits at this time. In the event that DEQ determines phosphorous limits are necessary, DEQ shall issue a draft modification to the permit and a staff analysis, and shall process the modification as provided in IDAPA 58.01.17.400.
Construction Plan Submittal Requirement	Prior to construction or modification of any wastewater facilities associated with the land application system, plans and specifications shall be submitted for DEQ review and approval. Within 30 days of completion of construction, the permittee shall submit as-built plans for review and approval.
Buffer Zones and Wellhead Protection Restrictions	Notwithstanding any other provision of this permit, including without limitation the buffer zones set forth herein, the permittee shall comply with the following: 1) wastewater applied by the permittee shall be restricted to the premises of the land application site, and 2) the permittee shall not discharge wastewater to surface waters of the state, without first obtaining all permits and other authorizations required by state and federal law. Except where otherwise indicated in this permit, the following buffer zone distances shall be provided between wastewater application mechanisms and the following: • Public Access Points: 50 feet or more • Permittee's Property Lines: 50 feet or more • Man-made Surface Waters: 50 feet or more • Inhabited Dwellings: 300 feet or more • Private Wells: 500 feet or more • Public Water Supply Wells: 1000 feet or more

E. Site Specific Permit Conditions

Category	Permit Limits and Conditions
Buffer Zones and Wellhead Protection Restrictions (continued from previous page)	The permittee shall at all times observe the buffer zones as specified in Appendix 3 of this permit and the following: • No untreated wastewater shall be applied within 1,000 feet of either of the two residences located on the Gnesa property. • No wastewater, treated or untreated, shall be applied within 400 feet of either of the two residences located on the Gnesa property. • No treated or untreated wastewater application by sprinklers within 1,000 feet of either of the two residences located on the Gnesa property. • No wastewater shall be applied to the northwest corner of the Wolfe property; only non-wastewater will be used for irrigation in this location. • Wastewater application on areas designated Linear 3 and Linear 4 on the site map in Appendix 3 shall only be done with linear irrigation devices with drag tubes, not with sprinklers. • No wastewater shall be applied within 300 feet south of the Wood residence, or within 50 feet south of the boundary between the Wolfe and Wood properties, whichever is greater. In the event of odor or other problems caused by wastewater land application, the buffer zone requirements for Linear 3 and Linear 4 may be increased per consent of the permittee and Wood; however, the buffer zone will not be increased greater than 400 feet of the Wood residence. • The permittee shall construct, operate, and maintain a system such that natural drainage from the south boundary of the Wood property to the north boundary of the Wolfe property shall be maintained. • No wastewater shall be applied within 300 feet of the Donaldson residence. • No wastewater shall be applied within 50 feet of the property boundary between the Wolfe and Donaldson properties. • No wastewater application by sprinklers within 1,000 feet of the Donaldson residence. • No wastewater shall be applied within 300 feet of the Mallett residence. • No wastewater application by sprinklers within 1,000 feet of the Mallett residence.
Posting Requirements	Signs shall be posted around the land application systems near all homes located around the perimeter of the site and at the entrance of all access roads into the site. At a minimum, the signs shall state “No Trespassing” or equivalent.

E. Site Specific Permit Conditions

Category	Permit Limits and Conditions
Odor Management Requirements	The land application facilities and other operations associated with the facility shall not create a public health hazard or nuisance conditions including odors. The site shall be operated in accordance with the permittee's approved Nuisance Odor Management Plan. In the event that nuisance odors, verified by DEQ, occur, the Plan shall be revised as necessary to eliminate or minimize the reoccurrence of nuisance odors.
Supplemental Irrigation Water Protection Requirement	Where wastewater and irrigation water interconnections exist in the distribution system, a DEQ-approved backflow prevention device shall be installed.
Waste Solids Management Requirements.	Arkoosh Site: Even application of truck wash sand and grit sump sludge is allowed on approved HMUs in accordance with the approved Sludge Management Plan. Application areas will not be reused in the same year. Also refer to Condition No. 4 in Section I of this permit. Wolfe Site: Prior to application of any waste solids on the land application site, a DEQ approved waste solids management plan is required. Also refer to Condition No. 4 in Section I of this permit.

F. Monitoring Requirements

1. The permittee shall monitor and measure parameters as stated in the Facility Monitoring Schedule in this section. Unless otherwise agreed to in writing by the DEQ, data collected and submitted shall include, but not be limited to, the parameters and frequencies in the table.
2. Samples shall be collected at times and locations that represent typical environmental and process parameters being monitored.
3. Appropriate analytical methods, as approved by DEQ, shall be employed. A description of sample collection methods, appropriate analytical methods, and QA/QC protocol to be used shall be included in the Plan of Operation manual.
4. Ten (10) soil sample locations shall be selected for each Soil Monitoring Unit (SMU) with greater than fifteen acres and Five (5) soil sample locations shall be selected for each SMU with fifteen acres or less. Three (3) soil samples shall be collected at each sample location, one at 0-12 inches, one at 12-24 inches, and one at 24-36 inches. The soil samples collected at each depth shall be composited to yield three (3) samples for analysis from each management unit.
5. Ground water monitoring wells shall be purged a minimum of three (3) casing volumes prior to obtaining a sample of ground water. Static water level shall be measured prior to purging each well.
6. Annual and monthly reporting of monitoring requirements is described in Section H, Reporting Requirements.
7. Monitoring locations are defined in Appendix 1, "Environmental Monitoring Serial Numbers".

Facility Monitoring Schedule

Frequency	Monitoring Point	Description/Type of Monitoring	Parameters
Once, after installation of wells	Ground water monitoring wells at the Wolfe site	Common ions, see note 7	Bicarbonate + Carbonate, Sodium, Calcium, Magnesium, Potassium, and Sulfate Note: Chloride is included in quarterly sampling requirements
Daily	Flow meter measure-ment of total effluent discharged from 5-day holding pond	Total volume of wastewater and irrigation water land-applied	Total volume of discharge stream (million gallons)
Daily	Flow meter measure-ment of influent stream at the Wolfe pumphouse and flow meter measurements for each HMU at the Wolfe site	Total volume of wastewater and irrigation water to each HMU	Total volume (million gallons and inches/acre) to each HMU
Daily, NGS only	Field conditions, each HMU in use	Visual assessment	Field conditions observations (frozen, ice layer, areas of ponding, or other unusual conditions)

F. Monitoring Requirements

Frequency	Monitoring Point	Description/Type of Monitoring	Parameters
Weekly	Wastewater stream at the outlet of the aerobic reactor	One, 24-hour flow proportional composite sample; see Note 2	BOD and TSS
Weekly, initial 7-month period of pretreatment plant operation Monthly, for the following 5-month period of pretreatment plant operation Quarterly, after initial 1-year period of pretreatment plant operation	Wastewater stream at the outlet of the anaerobic digestion system	Aseptic grab sample	Presence/absence of *Salmonella*, *Shigella*, *Listeria monocytogenes*, and *Escherichia coli O157:H7*. If the presence of one of these organisms is detected (i.e., a positive test result), a second test will be conducted within 24 hours of the previous, positive test. If the second test is negative, the regular testing schedule will resume. If the second test is positive for the presence of one of these organisms, the permittee will promptly take all actions necessary to 1) identify the source of the microorganisms if possible and 2) eliminate these microorganisms from the wastewater, as directed by the May 2004 settlement agreement.
Weekly, initial 7-month period of pretreatment plant operation Monthly, for the following 5-month period of pretreatment plant operation Quarterly, after initial 1-year period of pretreatment plant operation	Wastewater stream at the outlet of the anaerobic digestion system	Aseptic grab sample	Presence/absence for *Escherichia coli*.

F. Monitoring Requirements

Frequency	Monitoring Point	Description/Type of Monitoring	Parameters
Once every 2 weeks, initial 3-month period of pretreatment plant operation	Effluent discharged from 5-day holding pond	One, 24-hour flow proportional composite sample; see Note 2	COD, Total Kjeldahl Nitrogen, Ammonia-Nitrogen, Nitrite + Nitrate-Nitrogen, total phosphorous, Electrical Conductivity, pH, TDIS
Monthly, with written DEQ concurrence, after initial 3-year period of pretreatment plant operation			
Monthly	Each HMU	Calculate IWR for each crop type. Identify the irrigation system efficiency, the method of calculation, and all references/ sources for methodology used.	Volume (million gallons and acre-inches), record monthly
Quarterly (Jan, April, July, Oct) Note: Wells for the Wolfe sites are to be monitored quarterly <u>after</u> installation	Ground water monitoring wells	See note 7	Nitrate-Nitrogen, Total Phosphorous, Total Dissolved Solids, Chloride, Total Iron, Total Manganese, Total Coliform, Water Table Elevation, Water Table Depth Note: Analytical results are required for dissolved iron and/or manganese only if the results for total iron and/or manganese exceed the standards in IDAPA 58.01.11.200.01.b
Annually (April)	Each soil monitoring unit	See note 6	Electrical Conductivity, Nitrate-Nitrogen, Ammonium Nitrogen, Plant Available Phosphorous (Olsen Method), pH, Sodium Absorption Ratio

F. Monitoring Requirements

Frequency	Monitoring Point	Description/Type of Monitoring	Parameters
Annually	Each HMU (to determine compliance with IWR)	Calculate GS hydraulic loading rate (wastewater and supplemental irrigation water)	Million gallons and inches
	Each HMU (to calculate constituent loading rates during the GS)	Calculate GS hydraulic loading rate of wastewater stream	Million gallons and inches
	Each HMU	Calculate NGS hydraulic loading rate	Million gallons and inches
	Each HMU	Calculate seasonal average COD loading rate (GS and NGS)	Pounds/acre-day
	Each HMU	Calculate nitrogen loading rate from wastewater and/or other waste solids applied	Pounds/acre-year
	Each HMU	Calculate TDIS loading rate from wastewater and/or other waste solids applied	Pounds/acre-year
	Each HMU	Calculate phosphorous loading rate from wastewater and/or other waste solids applied	Pounds/acre-year
	Each HMU	Fertilizer (nitrogen and phosphorous) application rates	Type and pounds/acre-year
	Each HMU	Crop type and yield	Pounds/acre and total pounds per HMU (specify moisture basis)
	Each HMU	Plant tissue analysis: Composite sample of harvested portion	Nitrate-Nitrogen, Total Kjeldahl Nitrogen, Total Phosphorous, ash (dry weight basis)
	Each HMU	Calculate crop nitrogen, phosphorous, and ash removal	Pounds/acre and total pounds per HMU

G. Compliance Schedule for Required Activities

The Activities in the following table shall be completed on or before the Completion Date unless modified by DEQ in writing.

Compliance Activity Number Completion Date	Compliance Activity Description
CA-103-01 **Plan of Operation** **Within one year of permit issuance**	An updated Plan of Operation (Operation and Maintenance Manual or O&M Manual) for the wastewater land application facilities, incorporating the requirements of this permit, shall be submitted to DEQ for review and approval. The O&M manual shall generally be designed for use as an operator guide for actual day-to-day operations to meet permit requirements, and shall address relevant operations and maintenance for the wastewater pretreatment system and land application facilities. Upon approval, the updated O&M Manual shall be incorporated by reference into this permit and shall be enforceable as a part of this permit. The O&M Manual shall include scaled site map(s), clearly depicting each permitted HMU on the Arkoosh and the Wolfe sites, as well as an appropriate legend and labels for each HMU, HMU boundaries, permittee's property lines, adjacent rights-of-way, center pivot locations, buffer zones, any domestic well location on the sites or within 500 feet of the sites, all monitoring well locations on each site, all irrigation well locations on each site, all wastewater distribution line location(s), each inhabited dwelling on the sites or within 300 feet of either site. The O&M Manual shall include detailed plans addressing prevention of off-site drift of wastewater from the wastewater land application system. Implementation of this plan may require installation of a sufficiently functional weather station. In the event that a weather station is required, the permittee shall submit plans and specifications to DEQ for furnishing and installing the weather station. Plans and specifications shall be approved by DEQ prior to installation. The O&M Manual shall include a finalized segregation plan documenting the methodologies to be used for segregation and analysis of wastewater and irrigation water flows. The segregation plan shall clearly identify which distribution systems/service connections are to be utilized for wastewater and irrigation water transfer during normal operation(s), locations of sampling station(s) and flowrate meters, and operational parameters and/or sampling methodologies necessary to quantify hydraulic and constituent loading at the land application sites. A Contingency Plan shall be included as part of the O&M Manual, and shall address upset conditions for the wastewater pretreatment plant and/or land application facilities. The plan shall include concise process/flow descriptions that will be initiated during plant upset or similar startup/shutdown conditions, including sufficient monitoring and recordkeeping mechanisms to assess and verify wastewater flowrates. The Contingency Plan shall specifically address, but is not limited to, the following:

G. Compliance Schedule for Required Activities

Compliance Activity Number Completion Date	Compliance Activity Description
CA-103-01 **Plan of Operation** (continued from previous page)	1. Spill Prevention, Containment, and Countermeasures (SPCC) Plan* 2. Emergency Response 3. System Upsets, Startup/Shutdown Procedures * The Contingency Plan is not required in accordance with the SPCC plan requirements of 40 CFR 112, Oil Pollution Prevention.
CA-103-02 **Ground Water Monitoring Wells, Wolfe Site** **Within six months of permit issuance**	Ground water monitoring wells for HMUs on the Wolfe Site shall be installed within six (6) months of permit issuance. The wells shall be installed in accordance with DEQ's approval for design, specifications, and location(s).
CA-103-03 **Runoff Management Plan** **Within one year of permit issuance**	The permittee shall prepare and submit to DEQ for approval a Runoff Management Plan with control structures and other BMPs (e.g., berms, collections basins, etc.) designed to prevent runoff from any site or fields used for wastewater land application to property not owned by Glanbia except in the event of a 25-year, 24-hour storm event or greater, using the Western Regional Climate Center (WRCC) Precipitation Frequency Map, Figure 28, 'Isopulvials of 25-year 24-hour Precipitation.' For this site, the 25-year, 24-hour event is 2.0 inches. Upon approval of the plan by DEQ, the permittee shall implement the Runoff Management Plan, and shall construct, operate, and maintain the control structures and other BMPs in accordance with the plan to control runoff.
CA-103-04 **NGS Evaporation/ Evapotranspiration Factor Assessment** **Within two years of permit issuance**	The permittee shall conduct an assessment of the basis/parameters used to estimate the NGS hydraulic loading rate limits contained in Section E of this permit. The assessment shall, in particular, address and/or evaluate the validity and accuracy of the evaporation/evapotranspiration factor currently used to estimate the NGS hydraulic loading rate limits for the permittee's land application sites.
CA-103-05 **Permit Renewal Application** **6 months prior to permit expiration date**	Submit an application package to DEQ for permit renewal.

H. Reporting Requirements

1. The permittee shall submit an Annual Wastewater-Land Application Site Performance Report ("Annual Report") prepared by a competent environmental professional no later than January 31 of each year, which shall cover the previous year from November 1 through October 31. The Annual Report shall include an interpretive discussion of monitoring data (ground water, soils, hydraulic loading, wastewater etc.) with particular respect to environmental impacts by the facility.
2. The annual report shall contain the results of the required monitoring as described in *Section F. Monitoring Requirements*. Sampling frequencies greater than those prescribed in the Monitoring Requirements for parameters listed shall be included in the Annual Report.

   The annual report shall be submitted to the Engineering Manager at the following address:

   Twin Falls Regional Office
   1363 Fillmore Street
   Twin Falls, ID 83301
   208-736-2190

   A copy of the annual report shall also be mailed to the following address:

   Richard Huddleston, P.E.
   Wastewater Program Manager
   1410 N. Hilton
   Boise, ID 83706
   208-373-0561
3. The permittee shall submit monthly reports containing the results of monitoring requirements described in Section F. Monitoring Requirements. The report shall include monthly and cumulative year-to-date hydraulic loading rates and constituent loading rate for COD, nitrogen, TDIS, and phosphorous for each HMU for the water year beginning November 1. The monthly reports shall be submitted by the last day of the following month.
4. Unless otherwise approved by DEQ, all laboratory reports containing the sample results for monitoring required by *Section F. Monitoring Requirements* of this permit shall be submitted with the Annual Report.
5. Notice of completion of any work described in *Section G. Compliance Schedule for Required Activities* shall be submitted to DEQ within 30 days of activity completion. The status of all other work described in Section G shall be submitted with the Annual Report.

I. Standard Permit Conditions: Procedures and Reporting

1. The permittee shall at all times properly maintain and operate all structures, systems, and equipment for treatment, operational controls and monitoring, which are installed or used by the permittee to comply with all conditions of the permit or the Wastewater-Land Application Permit Regulations, in conformance with a DEQ approved, current Plan of Operations (Operations and Maintenance Manual) which describes in detail the operation, maintenance, and management of the wastewater treatment system. This Plan of Operations shall be updated as necessary to reflect current operations.

2. Wastewater must not create a public health hazard or nuisance condition as stated in IDAPA 58.01.02.600.03. In order to prevent public health hazards and nuisance conditions the permittee shall:

   a. Apply wastewater as evenly as practicable to the treatment area;
   b. Prevent organic solids (contained in the wastewater) from accumulating on the ground surface to the point where the solids putrefy or support vectors or insects; and
   c. Prevent wastewater from ponding in the fields to the point where the ponded wastewater putrefies or supports vectors or insects.

3. The permittee shall:

   a. Manage the wastewater land application treatment site as an agronomic operation where vegetative cover is grown and harvested or grazed to utilize the nutrients and minerals in the wastewater, and,
   b. Not hydraulically overload any particular areas of the wastewater land application treatment site.

4. All waste solids, including dredgings and sludges, shall be utilized or disposed in a manner which will prevent their entry, or the entry of contaminated drainage or leachate therefrom, into the waters of the state such that health hazards and nuisance conditions are not created; and to prevent impacts on designated beneficial uses of the ground water and surface water. The permittee's management of waste solids shall be governed by the terms of a DEQ-approved waste solids management plan, which upon approval shall be an enforceable portion of this permit.

5. If the permittee intends to continue operation of the permitted facility after the expiration of an existing permit, the permittee shall apply for a new permit at least six months prior to the expiration date of the existing permit in accordance with the Waste Water Land Application Permit Regulations and include seepage tests on all lagoons per latest DEQ procedures.

6. The permittee shall allow the Director of the Idaho Department of Environmental Quality or the Director's designee (hereinafter referred to as Director), consistent with Title 39, Chapter 1, Idaho Code, to:

   a. Enter the permitted facility,
   b. Inspect any records that must be kept under the conditions of the permit.
   c. Inspect any facility, equipment, practice, or operation permitted or required by the permit.
   d. Sample or monitor for the purpose of assuring permit compliance, any substance or any parameter at the facility.

7. The permittee shall report to the Director under the circumstances and in the manner specified in this section:

   a. In writing thirty (30) days before any planned physical alteration or addition to the permitted facility or activity if that alteration or addition would result in any significant change in information that was submitted during the permit application process.

   b. In writing thirty (30) days before any anticipated change which would result in non-compliance with any permit condition or these regulations.

c. Orally within twenty-four (24) hours from the time the permittee became aware of any non-compliance which may endanger the public health or the environment at telephone numbers provided in the permit by the Director (see below)

DEQ Regional Office: see Permit Certificate Page
Emergency 24-Hour Number: 1-800-632-8000

d. In writing as soon as possible but within five (5) days of the date the permittee knows or should know of any non-compliance unless extended by the DEQ. This report shall contain:

i. A description of the non-compliance and its cause;
ii. The period of non-compliance including to the extent possible, times and dates and, if the non-compliance has not been corrected, the anticipated time it is expected to continue; and
iii. Steps taken or planned to reduce or eliminate reoccurrence of the non-compliance.

e. In writing as soon as possible after the permittee becomes aware of relevant facts not submitted or incorrect information submitted, in a permit application or any report to the Director. Those facts or the correct information shall be included as a part of this report.

8. The permittee shall take all necessary actions to prevent or eliminate any adverse impact on the public health or the environment resulting from permit noncompliance.

9. The permittee shall determine (on an on-going basis) if any noxious weed problems relate to the permitted sites. If problems are present, coordinate with the Idaho Department of Agriculture or the local County authority regarding their requirements for noxious weed control. Also address these control operations in an update to the Operations and Maintenance Manual.

J. Standard Permit Conditions: Modifications, Violation, and Revocation

1. The permittee shall furnish to the Director within reasonable time, any information including copies of records, which may be requested by the Director to determine whether cause exists for modifying, revoking, re-issuing, or terminating the permit, or to determine compliance with the permit or these regulations.
2. Both minor and major modifications may be made to this permit as stated in IDAPA 58.01.17.700.01 and 02 with respect to any conditions stated in this permit upon review and approval of the DEQ.
3. Whenever a facility expansion, production increase or process modification is anticipated which will result in a change in the character of pollutants to be discharged or which will result in a new or increased discharge that will exceed the conditions of this permit, or if it is determined by the DEQ that the terms or conditions of the permit must be modified in order to adequately protect the public health or environment, a request for either major or minor modifications must be submitted together with the reports as described in *Section H. Reporting Requirements*, and plans and specifications for the proposed changes. No such facility expansion, production increase or process modification shall be made until plans have been reviewed and approved by the DEQ and a new permit or permit modification has been issued.
4. Permits shall be transferable to a new owner or operator provided that the permittee notifies the Director by requesting a minor modification of the permit before the date of transfer.
5. Any person violating any provision of the Wastewater Land Application Permit Regulations, or any permit or order issued thereunder shall be liable for a civil penalty not to exceed ten thousand dollars ($10,000) or one thousand dollars ($1,000) for each day of a continuing violation, whichever is greater. In addition, pursuant to Title 39, Chapter 1, Idaho Code, any willful or negligent violation may constitute a misdemeanor.
6. The Director may revoke a permit if the permittee violates any permit condition or the Wastewater Land Application Permit Regulations.
7. Except in cases of emergency, the Director shall issue a written notice of intent to revoke to the permittee prior to final revocation. Revocation shall become final within thirty-five (35) days of receipt of the notice by the permittee, unless within that time the permittee request an administrative hearing in writing to the Board of Environmental Quality pursuant to the Rules of Administrative Procedures contained in IDAPA 58.01.23.
8. If, pursuant to Idaho Code. 67-5247, the Director finds the public health, safety or welfare requires emergency action, the Director shall incorporate findings in support of such action in a written notice of emergency revocation issued to the permittee. Emergency revocation shall be effective upon receipt by the permittee. Thereafter, if requested by the permittee in writing, a revocation hearing before the Board of Environmental Quality shall be provided. Such hearings shall be conducted in accordance with the Rules of Administrative Procedures contained in IDAPA 58.01.23.
9. The provisions of this permit are severable and if a provision or its application is declared invalid or unenforceable for any reason, that declaration will not affect the validity or enforceability of the remaining provisions.
10. The permittee shall notify the DEQ at least six (6) months prior to permanently removing any permitted land application facility from service, including any treatment, storage, or other facilities or equipment associated with the land application site. Prior to commencing closure activities, the permittee shall: a) participate in a pre-site closure meeting with the DEQ; b) develop a site closure plan that identifies specific closure, site characterization, or cleanup tasks with scheduled task completion dates in accordance with agreements made at the pre-site closure meeting; and c) submit the completed site closure plan to the DEQ for review and approval within forty-five (45) days of the pre-site closure meeting. The permittee must complete the DEQ approved site closure plan.

Appendix 1
Environmental Monitoring Serial Numbers

HYDRAULIC MANAGEMENT UNITS

Serial Number	Description	Acres
MU-010301	Pivot 1 (Arkoosh)	29.5
MU-010302	Pivot 2 (Arkoosh)	185.52
MU-010305	Pivot 4 (Arkoosh)	161.75
MU-010306	Pivot 3 (Arkoosh)	36.66
MU-010307	Pivot 5 (Arkoosh)	32.15
MU-010308	Pivot 6 (Arkoosh)	188.45
MU-010309	Pivot 7 (Arkoosh)	118.6
MU-010310	Pivot 8 (Arkoosh)	29.4
MU-010311	Hand/wheel lines (Arkoosh)	136.06
MU-010312	Pivot 1 and Fields 5, A, and B (Wolfe)	111.4
MU-010313	Pivot 2 (Wolfe)	118.0
MU-010314	Fields 3, 4, E, and H (Wolfe)	110.9
MU-010315	Pivot 7 and Fields D, F, and G (Wolfe)	108.2
MU-010316	Pivot 6 and Field C (Wolfe)	81.9
	Total:	1448.49

WASTEWATER SAMPLING POINTS

Serial Number	Description
WW-010303	Wolfe pumphouse / influent stream
WW-010304	Anaerobic digestor outlet /effluent stream
WW-010305	Aerobic reactor outlet / effluent stream
WW-010306	5-day pond discharge / effluent stream

LAGOONS

Serial Number	Description
LG-010303	Wastewater Surge Pond (1-day holding pond)
LG-010304	Irrigation Water Storage Pond (5-day holding pond)

Appendix 1
Environmental Monitoring Serial Numbers

SUPPLEMENTAL IRRIGATION WATER SAMPLING POINTS

Serial Number	Description
SW-010301	Little Wood River, upstream
SW-010301	Little Wood River, downstream
SW-010303	Supplemental irrigation water from ground water at Wolfe site
SW-010304	Supplemental irrigation water from surface water at Wolfe site

SOIL MONITORING UNITS

Serial Number	Description	Associated HMU
SU-010301	Pivot 1 (Arkoosh)	MU-010301
SU-010302	Pivot 2, rocky (Arkoosh)	MU-010302
SU-010303	Pivot 2, cropped (Arkoosh)	MU-010302
SU-010305	Pivot 4 (Arkoosh)	MU-010305
SU-010306	Pivot 3 (Arkoosh)	MU-010306
SU-010307	Pivot 5 (Arkoosh)	MU-010307
SU-010308	Pivot 6 (Arkoosh)	MU-010308
SU-010309	Pivot 7 (Arkoosh)	MU-010309
SU-010310	Pivot 8 (Arkoosh)	MU-010310
SU-010304	Hand/wheel lines (Arkoosh)	MU-010311
SU-010312	Pivot 1 and Fields 5, A, and B (Wolfe)	MU-010312
SU-010313	Pivot 2 (Wolfe)	MU-010313
SU-010314	Fields 3, 4, E, and H (Wolfe)	MU-010314
SU-010315	Pivot 7 and Fields D, F, and G (Wolfe)	MU-010315
SU-010316	Pivot 6 and Field C (Wolfe)	MU-010316

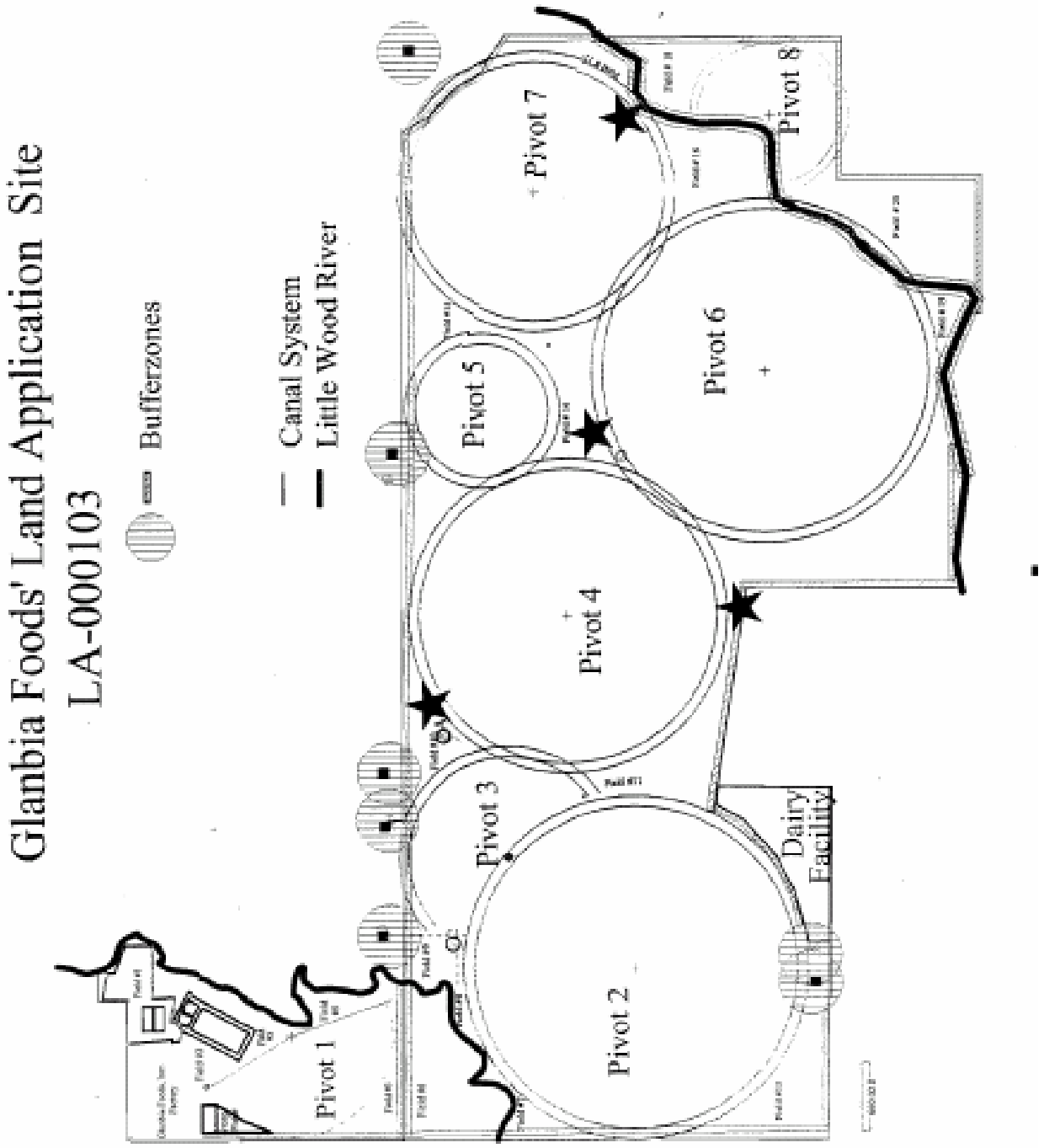
Appendix 1
Environmental Monitoring Serial Numbers

GROUND WATER MONITORING WELLS

Serial Number	Description	Location
GW-010306	GWM1, Arkoosh	Down gradient
GW-010307	GWM2, Arkoosh	Up gradient
GW-010308	GWM3, Arkoosh	Down gradient
GW-010309	GWM4, Arkoosh	Down gradient
GW-0103010	GWM5, Arkoosh	Up gradient
GW-0103011*	GWM6, Wolfe	Up gradient
GW-0103012*	GWM7, Wolfe	Down gradient
GW-0103013*	GWM8, Wolfe	Up gradient
GW-0103014*	GWM9, Wolfe	Down gradient

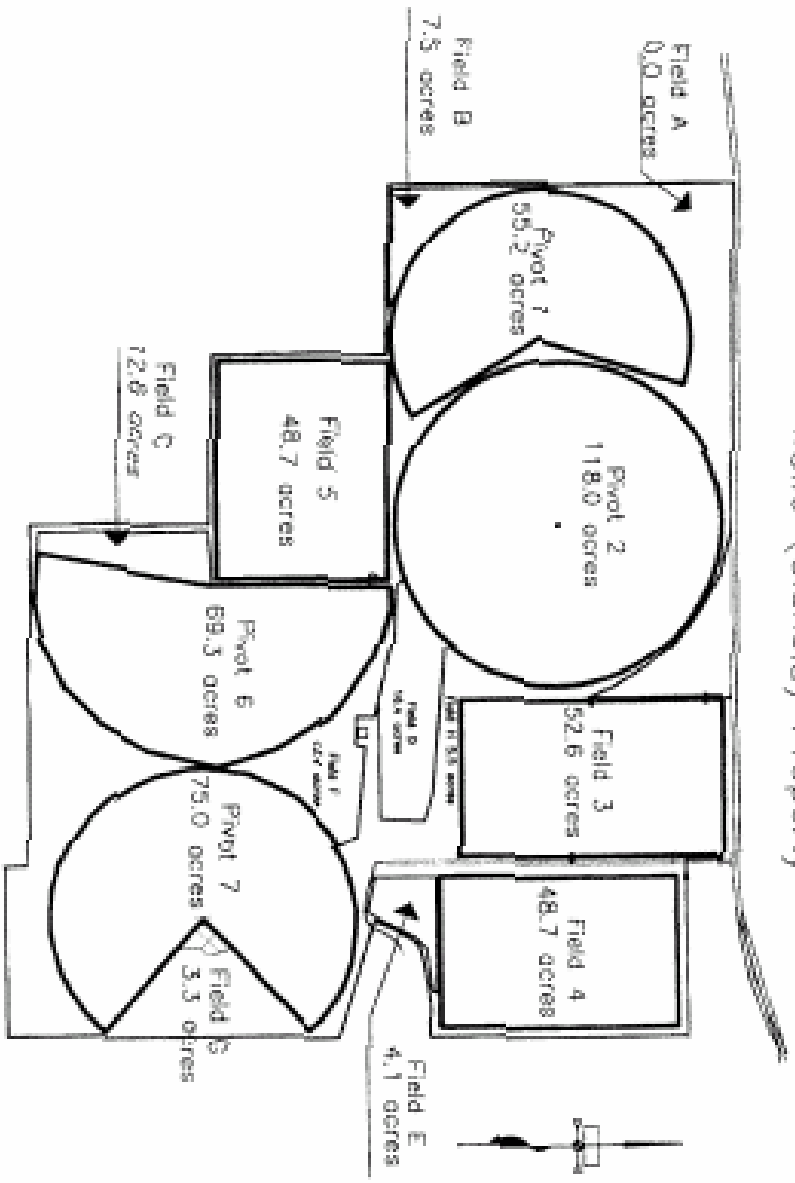
*Note: The exact number and final locations of ground water monitoring wells on the Wolfe sites is to be determined by Compliance Activity No. CA-103.4-03 in WLAP No. LA-000103-04.

Appendix 2
Site Map(s)



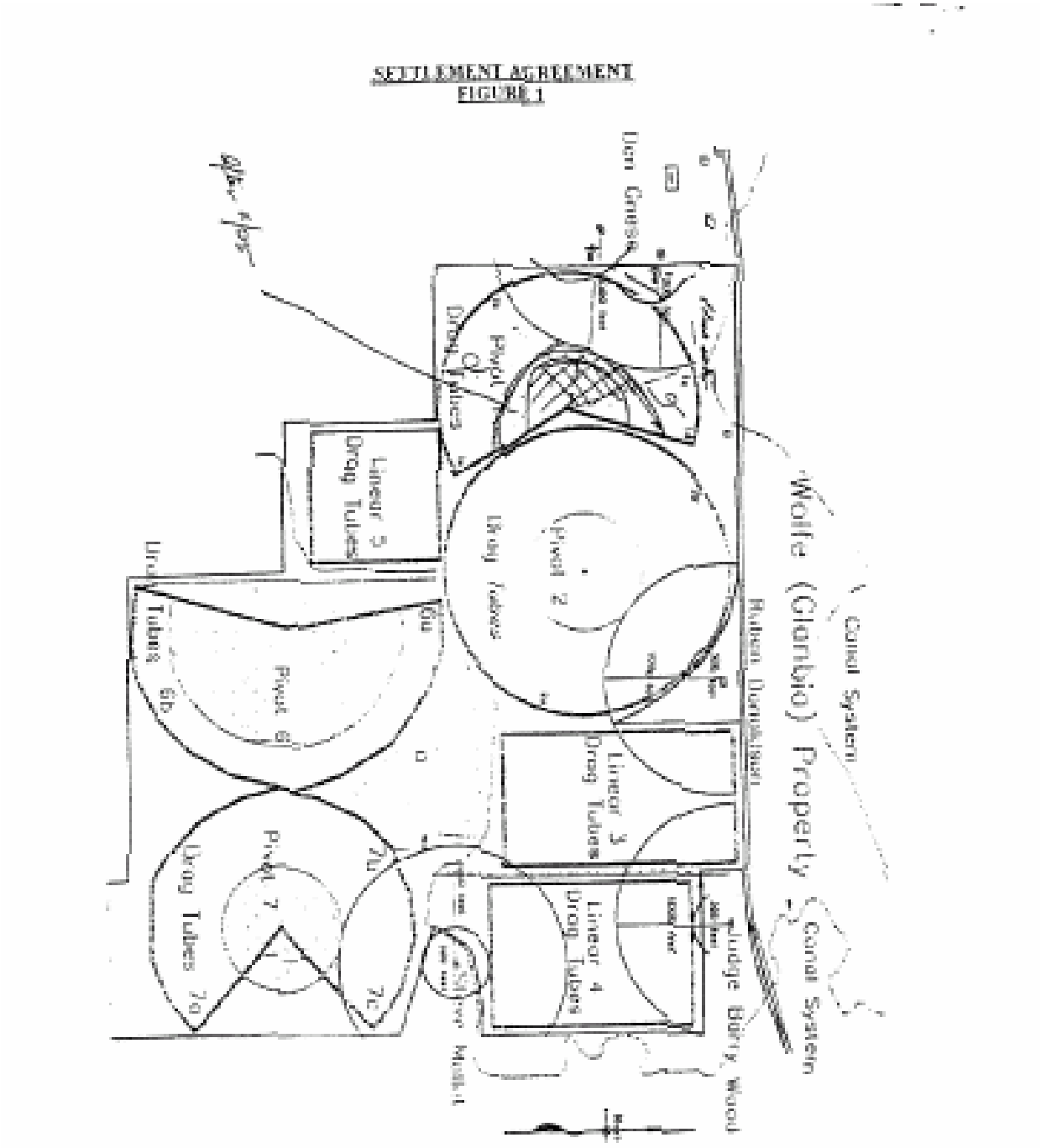
Note: Map(s) will be replaced after the Compliance Activity CA-103-01 is completed.

Appendix 2
Site Map(s)



Note: Map(s) will be replaced after the Compliance Activity CA-103-01 is completed.

Appendix 3
Buffer Zones Site Map(s)



Note: Map(s) will be replaced after the Compliance Activity CA-103-01 is completed.